C6985-6

DECEMBER 1990

ELECTRIC LIGHT & POWER

EL&P

Volume 68, Number 12
A PENNWELL PUBLICATION

VOICE OF THE ELECTRIC UTILITY INDUSTRY

KG&E to merge with KP&L

Leaves hostile Kansas City P&L without a target

TOPEKA, KS—Kansas Gas & Electric Co. and The Kansas Power & Light Co. have signed an agreement to merge, effectively putting an end to Kansas City Power & Light Co.'s hostile tender offer for KG&E (*EL&P*, Sept., Nov., p.1).

KCP&L launched its unsolicited tender offer for KG&E July 23, for $873 million. KG&E fought the attempt, saying it was illegal and underpriced. KCP&L said it would leave its tender offer open.

With appropriate regulatory and shareholder approvals, KG&E would become a subsidiary of KP&L. KP&L's offer was $32/share cash and/or KP&L common stock, not to exceed $434 million in cash. In addition, the maximum number of shares issued will be approximately 28 million, based on a conversion ratio for KP&L stock at $20-$23.75 at the time of the transaction. The total offer would be about $1 billion.

"After carefully reviewing all options," said KG&E's Wilson K. Cadman, KG&E "has concluded that this merger serves the best interest of the company's shareholders, its customers and employees."

Cadman, KG&E's chairman and CEO, said the "friendly combination" preserves KG&E jobs, and creates "strategic electric transmission capability to move bulk power from Nebraska to Oklahoma, from Missouri to western Kansas and all points in between."

KG&E rates would fall by $15 million after the merger, KP&L said.

Strong strategic fit

John E. Hayes Jr., KP&L chairman, president and CEO, said the merger would be a "strong strategic fit. We believe this transaction is consistent with our intention to continue our record of dividend payments."

Hayes added, "We do not anticipate any layoffs for either company as a result of this merger."

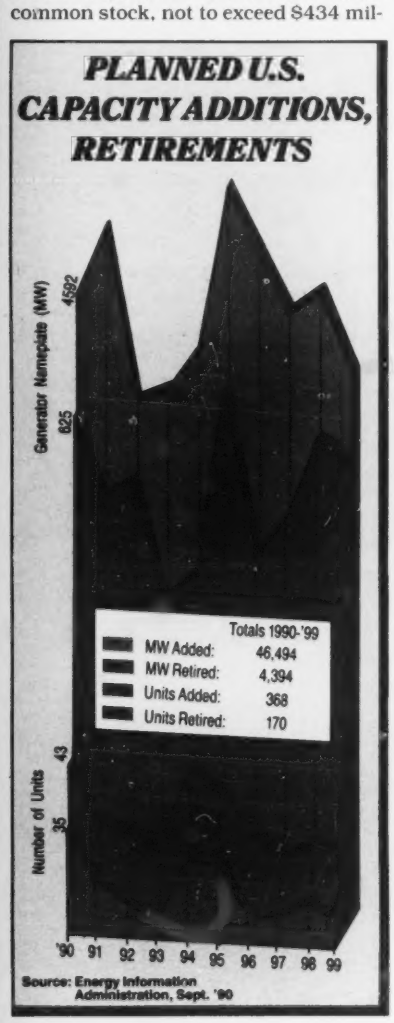
Hayes stated that hostile suitor "Kansas City Power & Light has stated that a major reason behind its unsolicited offer to acquire Kansas Gas & Electric was to take over Kansas Gas & Electric's available electric capacity. When our friendly merger is approved, we pledge to make available to Kansas City Power & Light the electric capacity that they say is necessary to fulfill their customer needs into the late 1990s."

Cadman concluded, "We're bringing together one of the world's best nuclear operations and one of the most environmentally clean coal-fired generating complexes in the nation. This energy resource mix and distribution network will provide the flexibility to bring our customers the most efficient combination of domestic energy at competitive prices."

Business comparison

KP&L, headquartered in Topeka, KS, conducts business in its service area as KPL Gas Service, with 1.06 million gas customers and 302,000 electric power customers. Gross 1989 revenues were $1.1 billion; net income, $73 million; employees, 4600.

KG&E, based in Wichita, KS, serves more than 250,000 electric customers. It had 1989 gross revenues of $533.4 million, and net income of $47.5 million, with 1330 employees.



Court kills NRC's one-step license

WASHINGTON—The Nuclear Regulatory Commission overstepped public rights with the "one-step" nuclear power plant licensing, ruled a federal appeals court on Nov. 2.

The U.S. Court of Appeals for the District of Columbia supported portions of the streamlining, such as standardized nuclear design and advanced siting approvals. But the unanimous decision said the provision that would allow power plant operators to receive construction *and* operating permits in a single procedure violates the Atomic Energy Act.

Could hamper new construction

The streamlining, approved by the NRC in April 1989 (*EL&P*, May, p.1), was called by then-NRC-Chairman Lando W. Zech "the most important change in our licensing process in more than 30 years." Utilities praised the decision because it alleviated the risk of protracted delays in licensing hearings, which has added billions of dollars and years of time to the cost and construction of several plants.

NRC spokesperson Bob Newlin said the NRC is examining the ruling before deciding on its next step.

MD 20814
BETHESDA
4520 EAST WEST HWY
CONGRESSIONAL INFO SERVICE
SUITE 800 COPY #
41001273O2*1201901 00000O 1535
**********5-DIGIT 20814

LATE NEWS

Strategic plan may untangle obstacles to new nuclear plants—goal: operation by 2000, p.4,7.
The U.S. resists international pressure to set CO_2 emission limits or a timetable for cuts at the Second World Climate Conference in Geneva in November, citing programs to slow hikes in emissions that may affect climate. Pressure is expected to grow.
Next month: *EL&P*'s Annual Capital Investment Forecast.
INSIDE: '91 Calendar of Events.

CLEAN AIR

A new Clean Air law: Compliance, p.3; Environmental Protection Agency works on interpretation, p.7. President Bush signed the bill into law Nov. 15.

New law mandates include:
- SO_2 cuts, cap of 10.6-million tons per year by 2000, with half of the cuts by Jan. 1, 1995; allowances based on '85-87 baseline; early reduction credits, extensions; various bonuses. Annual SO_2 emissions credit auction starts in '93. Credits may be bought and sold.
- **NOx cuts** will be specified in 1993 and 1997.
- **Air toxic cuts** of 90 percent by 2001 for 189 substances; best achievable technology must be installed between 1995 and 2003.
- **Monetary**, criminal penalties.

Utilities merge in Iowa and Colorado

Iowa Resources Inc. and Midwest Energy Co. merged the two holding companies into a new holding company—Midwest Resources Inc. headquartered in Des Moines, IA.

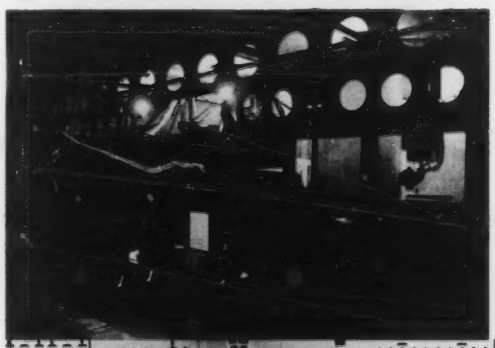
In separate merger news, Tri-State Generation and Transmission Association filed its plan of reorganization for Colorado-Ute Electric Association with the U.S. Bankruptcy Court in Denver in November.

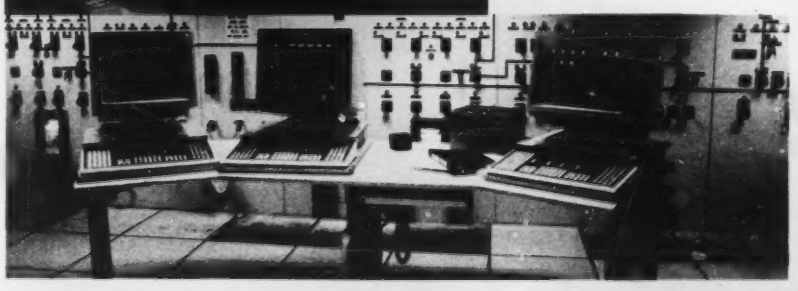
The Iowa merger, which became effective on Nov. 7, has been approved by the necessary regulatory agencies.

As a result of the merger, Midwest Resources now will own two utility operating companies, Iowa Power Inc. and Iowa Public Service Co. It will also own

Continued on page 8

Automation controls coal units





By late 1991, Metropolitan Edison Co. expects to have automated control on all coal-fired units. Two units at Portland Station are nearing completion (top). The system is already in operation at one of the three units at the Titus Station (bottom). Cost at both stations is estimated at $18.9 million.

After completion, Met-Ed will load dispatchable units from the central energy control system. The computerized control automatically adjusts coal, air, water and all associated operations.

NEWS BRIEFS

JILL MINNER, Special Projects Editor

CILCO agrees to buy power from CIPS

CILCORP Inc. announced that one of its subsidiaries, Central Illinois Light Co. (CILCO), has signed an agreement to purchase electric generating capacity and associated energy from Central Illinois Public Service Co. (CIPS). According to CILCORP, the contract runs from Jan. 1, 1991 through May 1998. Under the agreement, CILCO will buy 30 MW from CIPS in 1991, and will gradually increase its purchases to 90 MW in 1997. CILCO also has the option of increasing its purchases to 100 MW at any time. The agreement, which is part of CILCO's Least-Cost Electric Energy Plan, is pending approval from the Illinois Commerce Commission.

Pay increases for utility CEOs big in '89: study

Chief executive officers at electric and gas utilities received an average 17-percent increase in their 1989 cash compensation, according to a report by the Utilities Consulting Group. The study, *Executive Compensation Among Utilities: 1990*, also found that 28 electric and gas utilities have instituted annual incentive compensation programs since 1987. The 300-page report reviews the compensation practices of 231 investor-owned utility companies, including electric, gas, telephone and water.

UtiliCorp wins $15 M in anti-trust lawsuit

UtiliCorp United said it will receive $15 million over two years as a result of an anti-trust lawsuit settlement involving three of its natural gas suppliers. The suppliers were responsible for overcharges from 1979 to 1982 that were passed on to some of UtiliCorp's customers served by Missouri Public Service and Kansas Public Service, according to the company. "We will achieve a very substantial recovery for our Missouri and Kansas customers," stated UtiliCorp Chairman and President Richard C. Green, Jr. "In addition, we will recoup our legal expenses and anticipate that our divisions also will be able to recover some portion of the earnings they lost. We are extremely pleased with this settlment." The suppliers involved in the settlement include Amoco Production Co., Oxy USA Inc. and Williams Natural Gas Co.

SCE&G picks president

Bruce D. Kenyon has been appointed president and chief operating officer at South Carolina Electric & Gas Co. He was previously senior vice president for division operations at Pennsylvania Power & Light Co. "Mr. Kenyon is an organized and proven leader with 20 years of utility experience. He is well versed in virtually every aspect of utility operations from nuclear production of energy to company-wide marketing and customer services. He will be an asset to our company..." said SCANA Chairman and CEO Lawrence M. Gressette. Kenyon succeeds the retiring Thomas C. Nichols Jr.

Detroit Edison VP elected ECAR chairman

Willard R. Holland, Detroit Edison senior vice president-energy marketing and distribution, will serve as chairman of the executive committee of the East Central Area Reliability Coordination Agreement. He will also represent ECAR on the board of trustees of the group's parent organization, the North American Electric Reliability Council (NERC). "The United States has the largest and most dependable electrical energy system in the world, and it's the job of NERC and its regions, including ECAR, to keep it that way," stated Holland.

CG&E awards Zimmer coal-supply contracts

Cincinnati Gas & Electric Co. has announced that it will award three long-term coal supply contracts for its Wm. H. Zimmer Generating Station. Addington, Inc., Consolidated Coal Co. and Ohio Valley Coal Co. together will supply a total of 2.5 million tons of coal, according to CG&E. Zimmer, originally planned as a nuclear generating unit, is being converted to a coal-fired plant and is scheduled to begin operation in the spring of 1991. Owners of the plant include: CG&E (46.5%), Dayton Power and Light Co. (28.1%) and Columbus Southern Power Co. (25.4%).

NELPA officers chosen

The Northwest Electric Light & Power Association announced that it has selected its officers for the 1990-91 fiscal year. E. Kay Stepp, president and chief operating officer of Portland General Electric Co., was named president of the association. Larry R. Gunnoe and Richard R. Sonstelie will serve as vice presidents. Gunnoe is president and chief operating officer of Idaho Power Co. and Sonstelie is president and chief financial officer at Puget Sound Power & Light Co.

Miller named president at UE&C International

Charles Q. Miller was chosen as president of United Engineers & Contructors International Inc., a subsidiary of Raytheon Co. He replaces Gunnar E. Sarsten who resigned after seven years with the company. Miller most recently served as vice president and general manager of UE&C's Stearns-Roger division.

Utilities take part in tree-planting programs

A number of utilities have been participating in various tree-planting programs.

Metropolitan Edison Co. is sponsoring the Global ReLeaf campaign of The American Forestry Association. The campaign is designed to promote community forestry programs that reduce energy demand and cut air pollution. "The Global ReLeaf program will complement Met-Ed's continued environmental commitment programs such as the Municipal Tree Restoration, Single Tree Replacement, and Street Tree Factsheets," explained Met-Ed Forestry Manager Eric S. Ulrich.

The Sacramento Municipal Utility District said it has joined in a partnership with the Sacramento Tree Foundation to help the foundation reach its goal of planting one million trees. The partnership's Shade Tree Program is part of a conservation plan by SMUD to reduce energy consumption throughout the Sacramento area. The trees that are planted will provide shade and evaporative cooling in the summer, according to SMUD.

Kansas Gas and Electric Co. has initiated a program to plant trees in conjunction with the Dwight D. Eisenhower Centennial. The trees, grown from seeds harvested at Eisenhower's home, are being planted in recognition of Eisenhower as a, "soldier, president, statesman and Kansan," according to Don Elliott, KG&E Regional Manager-Wichita.

Six awarded by DOE for atomic energy work

The U.S. Department of Energy recently presented six E.O. Lawrence Awards to scientists and engineers for their contributions to the developemnt, use or control of atomic energy. Recipients of the award included: John J. Dorning, University of Virginia; James R. Norris, Argonne National Laboratory and the University of Chicago; S. Thomas Picraux, Sandia National Laboratories; Wayne J. Shotts, Lawrence Livermore National Laboratory; Maury Tigner, Cornell University; and F. Ward Whicker, Colorado State University.

Utilities win APPA annual report awards

The American Public Power Association has announced the winners of its annual report contest. Santee Cooper won first place and Ontario Hydro won second place, for electric utilities with gross revenues exceeding $400 million. In the category of electric utilities with $175-400 million in gross yearly revenues, Tacoma Public Utilities was first and the Lower Colorado River Authority received second. APPA said the reports were judged on basis of written text, design, photography, clarity of financial data, organization, ingenuity and imagination, layout printing, and appropriateness for intended readers.

NSC's Public Utilities Section celebrates 75th

The National Safety Council reported that the public utilities section of its industrial division recently celebrated 75 years of service to safety. Since the section was founded in 1915, members have worked to reduce the number of accidental deaths and injuries related to the public utilities industry, both on and off the job. According to the NSC, each of its sections studies safety and health problems within its industry to produce information on accident control measures.

Utilities fined by NRC

The U.S. Nuclear Regulatory Commission recently proposed the following fines:

Ariz. Nuclear Power Project
A $75,000 fine for alleged violations of NRC requirements involving medical records of licensed reactor operators at the Palo Verde Nuclear Generating Station. ANPP also received a $125,000 civil penalty for apparent violations involving its emergency lighting system.

Carolina Power & Light Co.
A $62,500 civil penalty for alleged violation of NRC requirements at the Brunswick nuclear power plant. The violation relates to an incident in which two individuals were exposed to radiation during the installation of core reactivity detectors and cables at the plant.

Duke Power Co.
A $25,000 fine for failing to correct a design error with some flow control valves in the ventilation system at the Oconee Nuclear Plant.

Georgia Power Co.
A $40,000 civil penalty for alleged violation of NRC requirements at the Vogtle nuclear power plant. According to the NRC, Georgia Power failed to make offsite notifications of emergency conditions in a timely manner.

GPU Nuclear
A $75,000 fine for alleged violations associated with requalification examinations of two NRC-licensed reactor operators at the Oyster Creek nuclear plant.

IN THIS ISSUE

HIGHLIGHTS

INDUSTRY NEWS

Kansas P&L and Kansas G&L sign merger agreement, snub KCP&L. 1
Illinois Power mixes tires with coal. 3
Utilities agree to various power supply and delivery deals. 4
Attention to quality is among top utility strategies. 8
Big green gets cut down to size. 9
UPMG Focuses on partnerships. 9
Sales and revenue grew in the second quarter, but earnings were flat. 14

GENERATION TECHNOLOGY

Tampa Electric engages environmentalists in plant siting decisions. 16
East Kentucky solves flyash control problems at coal plant. 16
Power-Gen '90 to run Dec. 4-6 in Orlando, FL **(Special Report)**. 20
More Clean Coal Technology Projects are awarded. 40

T&D TECHNOLOGY

DA/DSM symposium focuses on real-world potential. 28
Security system marketing ups revenues for co-op. 28
T&D maintenance seminar emphasizes safety, cost. 30
Database converts easily to other CAD formats. 31
Weather-related data crucial to operations **(Special Report)**. 33

REGULAR FEATURES

Commentary and **Letters** 4
Financial Performance 12
Information/Control Systems 14
Labor/Management Concerns 15
Marketing: Geothermal puts PSI back in heating market. 27
Readers' Service 37
Calendar 39
Bulletin Board 41
New Products 49
Regulatory Review 53
Management Methods 55

COMMENTARY

Restore the nuclear option

When the call came in, excitement bounded from the voice of News Editor Mark Hoske. According to an industry contact, a plan to build a new, advanced nuclear plant would be unveiled at the Nuclear Energy Forum in Washington, then underway in mid-November.

The prospect of a new nuclear plant, after a hiatus of nuclear plant orders for more than 12 years, certainly caused an adrenelin rush. But followup showed that the tip overstated the actual story. The next day, formal announcement came from the Nuclear Power Oversight Committee (NPOC), comprised of representatives of the eight major electric- and nuclear-industry associations and seven individual energy industry leaders. It turned out to be a plan to improve the *conditions* that could lead to an order for an advanced reactor plant in the mid-1990s, with operation to begin by the year 2000.

While the reality was a far cry from the anticipated, the development is noteworthy. More importantly, it just might work.

"A Strategic Plan for Building New Nuclear Plants" called for the achievement of 14 specific goals divided into four functional groups:

First, present operators of nuclear facilities need to continue and improve safe, economic and reliable operations. Progress toward establishment of a spent-fuel storage facility, increased low-level waste-disposal capacity and a stable, economic supply of uranium fuel also must be pressed.

Second, generic regulations and industry standards will be sought. This requires establishing a predictable regulatory environment, with plant licensing to precede actual construction. (This suffered a recent set back, see p. 1). The Nuclear Regulatory Commission, the Environmental Protection Agency and state government agencies must determine and agree upon their respective mutually exclusive roles and jurisdictional limits.

Third, technical functions of new plant designs must be developed and tested. Form and function of siting and regulatory review procedures need agreement. The program's goal is to build and operate groups of essentially identical plants with optimum safety, efficiencies and economics.

Finally, the plan calls for continued efforts to gain public acceptance of nuclear power by building local support for potential plant sites, and encouraging state regulatory reform to bring economic predictability to new nuclear projects, enhance government support and develop a viable structure for financing new nuclear projects.

The program emphasizes improved communications throughout.

So what's so new? What's so good about this "plan"? Aspects of the program echo previous efforts. The new part is that a specific organization accepted responsibility for achieving each of the 14 specific requirements. And with each responsibility goes a timetable.

Strategic plans, far from certain, provide focus. In this case, the final result—initiating a new nuclear power plant construction program—depends on success of 14 component requirements. But at last, the industry has coalesced to achieve a common, defined goal, ending the diffusion of interests and talents pursuing separate agendas.

Will it work? We'll know in just a few years. If a new nuclear plant operates by 2000, the first elements of NPOC's program must be achieved by 1992. If the electric utility industry hopes to meet its long-term responsibilities, let's pray NPOC's plan becomes reality. Then, newsrooms all over the country will confirm the long-overdue story of a new nuclear plant order.

Robert A. Lincicome, Editor-in-Chief

Next stop, global warming?

The new clean air law has the "Green" bandwagon rolling at breakneck speed. The utility industry should jump on before it gets run over again. The next save-the-world effort may turn the helm toward cuts/caps on CO_2 emissions in the name of Global Warming. This may further restrict environmentally sound clean-coal efforts and waste vast strategic U.S. coal resources. Jump on the Green bandwagon: reposition as part of the solution, highlight environmental/efficiency efforts, and support research on the *theory* of global warming.

Mark T. Hoske, News Editor

EL&P ELECTRIC LIGHT & POWER
1250 S. Grove Ave., Barrington, IL 60010

Arthur L. Rice, Publisher
Robert A. Lincicome Editor-in-Chief

PennWell PUBLISHING COMPANY

708-382-2450
Fax: 708-382-2977

Henry Stein, Senior Editor-Generation
H. Wayne Beaty, Senior Editor-Transmission/Distribution
Mark T. Hoske, News Editor
Jill F. Minner, Special Projects Editor
B. J. Davidson, Assistant Editor
Dianne Wilson, Editorial Assistant-Products/Literature
William Kenworthy, Legal/Regulatory Editor
Ted Pollock, Management Editor
Richard D. Alaniz, Labor/Management Editor
Anthony F. Cantarella, Safety/Training Editor
John D. Turrel, Contributing Editor

ELECTRIC LIGHT & POWER (USPS 858-860) is published monthly by the PennWell Publishing Company, 1421 S. Sheridan Road, Tulsa, OK 74112.

© Copyright 1990 by PennWell Publishing Company. All rights reserved. Officers of PennWell Publishing Company are Philip C. Lauinger, Jr. Chairman/Chief Executive, Joseph A. Wolking, President, Joseph T. Bessette, Group Vice President, John Maney, Vice President/Finance. Electric Light & Power editorial offices are located at 1250 S. Grove Avenue, Barrington, IL 60010. Phone (708) 382-2450. Distributed to executives and engineers in U.S. electric utilities and consulting engineering firms.

Second class postage paid at Tulsa, OK, and additional mailing offices. Subscription: $42 per year (U.S.), $73 (foreign), $118 (foreign air mail). Single issue price: $4 + postage ($7 + postage foreign). Available on the NEXIS® Service, Mead Data Central Inc., Box 933, Dayton, OH 45402; (513) 865-6800. Copies of back issues are available on microfilm from Univ. Microfilm, 300 N. Zeeb Road, Ann Arbor, MI 48103, and on microfiche from Micro-Photo Div. of Bell & Howell, Old Mansfield Road, Wooster, OH 44691. POSTMASTER: Send address changes to ELECTRIC LIGHT & POWER, P.O. Box 2680, Tulsa, OK 74101.

VBPA ABP

Advertiser and advertising agency assume liability for all contents (including text representation and illustrations) of advertisements printed, and also assume responsibility for any claims arising therefrom made against the publisher. It is the advertiser's or agency's responsibility to obtain appropriate releases on any items or individuals pictured in the advertisement.

LETTERS

O_2 and CO_2 in the atmosphere

In response to N.D. Sadanandan's letter on the relationship between atmospheric oxygen and carbon dioxide in the October issue:

The current concentration of CO_2 in the atmosphere is about 330 ppm or 0.033 percent by volume (not weight). The current concentration of oxygen is about 209,000 ppm or 20.9 percent. Even if the CO_2 concentration were to double to 660 ppm, it would reduce the oxygen concentration to 208,607 ppm, which rounds off to 20.9 percent.

This reduction is insignificant compared to the warming effects such an increase in CO_2 would bring.

Alan J. Weinrich, CIH
Senior Industrial Hygienist
PSI Energy
Plainfield, IN

Oil dependency

Enclosed is information based on Energy Information Agency reports that reveals a couple of errors in your October issue article.

- 42.1 percent of America's energy comes from oil.
- 44.9 percent of America's oil is imported.
- 18.9 percent of America's total energy is from imported oil. Apparently free markets have worked to select not only a wide range of oil sources but also the lowest dollar [cost] per MMBtu.
- Only 26.5 percent of the oil imported into America comes from the Middle East.

Thanks for pointing out that utilities use very little oil. Perhaps we should emphasize that nuclear is the second largest source of electric generation, and that the United States leads the world in nuclear electric power, producing almost twice as much as France.

Nick Schroeder
Colorado Springs, CO

Editor's note: Thanks to reader Schroeder for reiterating these facts. The charts he enclosed also shed additional light on the imported oil situation as it affects electric utilities:

Slightly less than 5 percent of oil-based energy is used by U.S. electric utilities to generate electricity, and less than half of that is from offshore. Moreover, of the offshore portion, less than a quarter is from Arab states and more than half of that is from Saudi Arabia. In other words, the amount of oil from non-friendly Arab nations is minute.

Reader Schroeder makes a strong point about U.S. nuclear power also. Unfortunately, although the U.S. has a healthy superiority in nuclear electricity output, nuclear's share of U.S. output will increase only slightly in the future as the last few nuclear projects under construction are completed. France, substantially smaller in size and population than the U.S. but with few domestic resources from which to generate electricity, derives a much larger portion of its electricity from nuclear energy than the U.S. Moreover, the French nuclear program, although slowed over the past couple of years, remains a viable option for the future.

Power delivery, supply

Portland General acquires IPP interest; construction plans; bids

BARRINGTON, IL—Power supply and delivery deals and transmission access top recent news.

Relating to bidding, power plants, or production:

- Portland General Corp. (PGC) acquired 20 percent of Bonneville Pacific Corp. (BPC), an independent power producer headquartered in Salt Lake City, for $34 million, Oct. 2. PGC has a three-year option to acquire up to 49 percent of BPC stock. As part of the agreement, PGC's President Richard B. Reiten and two other executives were appointed to the BPC board of directors. BPC, an independent energy developer, has developed or acquired 29 projects for 214 MW. It now has 153 MW in projects. The investment "fulfills our corporate strategy to acquire a well-regarded company with an established presence in the independent power production business," said Reiten.
- Wisconsin Power & Light Co. and Wisconsin Public Power Inc. System announced the signing of more than $73 million in contracts to purchase up to four GT-11N combustion-turbine generators from ABB Energy Services Inc. of North Brunswick, NJ.

The two utilities plan to install the natural-gas-fired peaking units at WP&L's South Fond du Lac substation, subject to regulatory approval. WPPI would install the first 82-MW unit by 1993, WP&L, two units by 1994 and an optional unit in 1996.

Burns & McDonnell Engineers-Architects-Consultants, based in Kansas City, MO, will provide engineering services.

- Oglethorpe Power Corp. expects to complete evaluation of 36 bids totalling 7200 MW by January 1991 for a 700-MW generating capacity request for proposal. The Atlanta-based generation and transmission cooperative received bids for 4500 MW fueled by natural gas, 1500 MW by coal, 900 MW in off-system sales, with oil-fired and other fuel types making up the rest.

Of the 36 bids, qualifying facilities account for 18, 13 are independent power producers, and five are utility projects.

- Minnesota Power Co. completed the sale of 20 percent of its 500-MW coal-fired Clay Boswell Station Unit 4 to The Wisconsin Public Power Inc. System (WPPI) of Sun Prairie, WI, for $84 million. Regulatory and company approvals were completed in September. WPPI made wheeling arrangements. The sale should add 38 cents/share to MP's 1990 earnings.
- Pennsylvania and New Jersey regulatory filings started in October for previously announced agreements that will reopen a coal-fired power plant near Pittsburgh and construct a 200-mile, 500-kV power line across the western half of Pennsylvania. General Public Utilities Corp. utilities will purchase half of the Phillips Station plant, owned by DQE's Duquense Light Co. The plant, closed in '87, is to reopen in '94.
- Palo Verde nuclear Unit 1 was returned to service Sept. 24 following an

Continued on page 10

Interregional connections, lost capacity may hurt reliability

PRINCETON, NJ—Regional electric reliability concerns in the next decade range from impacts of acid-rain compliance in the east-central U.S. to recent limitations in certain interregional connections for emergency assistance, according to the North American Electric Reliability Council.

U.S. electrical peak demand is projected to grow at 2 percent per year, 1990-99. The U.S. will remain summer-peaking, exceeding winter peaks by 11 percent, NERC said. Canada will stay winter-peaking with 2.2 percent growth over the nine years, exceeding summer demand by 39 percent. These rates are weather-normalized, average annual rates, NERC said.

Clean air legislation and other issues may hamper U.S. reliability, warned NERC (*EL&P*,Nov.,p.3).

1990-1999 Forecast of Peak Demand and Energy

United States	1990	1999	1990-1999 (%/yr)
Summer Peak Demand[a] (Thousands of MW)	539	646	2.0
Annual Net Energy for Load (Millions of MWh)	2890	3476	2.1
Canada	**1990/91**	**1999/00**	
Winter Peak Demand[a] (Thousands of MW)	79	96	2.2
Annual Net Energy for Load (Millions of MWh)	432	543	2.6

Note:Figures are rounded. Percentages are based on complete data.

[a]Forecast uncertainty is illustrated in Figures 1 (U.S.) and 2 (Canada).

Source: NERC

Regional concerns

Acid-rain compliance will impact about 50,000 MW of capacity in the East Central Area Reliability Coordination Agreement (ECAR). Potential impacts on generation availability and the influence of proposed emission caps on inter-utility emergency assistence are "serious concerns," NERC stated in its "1990 Reliability Assessment." Peak demand dropped 4.7 percent 1988-89, the greatest decrease of all regions.

Electric Reliability Council of Texas (ERCOT) reported that construction delays of critical 345-kV transmission lines and dependence on natural-gas-fired generation are major concerns for continued reliability.

Mid-Atlantic Area Council (MAAC) said recent limitations in interregional transmission systems have rendered MAAC unable to receive desired levels of emergency assistance from neighboring regions. MAAC may need additional generation if assistance from other regions declines.

Mid-America Interconnected Network (MAIN) said probability studies indicate that with demand forecast error and weather uncertainties, capacity additions may be needed as early as 1996.

Northeast Power Coordinating Council (NPCC) expects to need 2460 MW of added generation or demand-side resources 1995-99 beyond what is already planned.

Southeastern Electric Reliability Council (SERC) warned that if peak demand growth continues to exceed forecast, supply deficiencies could quickly develop. SERC's peak demand grew the most of all the U.S. regions, up 1.6 percent 1988-89.

MAPP's Canadian peak demand (winter) increased 9 percent, the largest increase overall.

Lighting for and around computers

NEW YORK CITY—A new lighting guide addresses the needs for proper lighting of computer terminals and surrounding areas. As a Recommended Practice, it examines lighting requirements for both visual comfort and good visibility at length, with an analysis of the impact of general lighting on those performing visual display terminal (VDT) tasks.

It also discusses general lighting requirements for offices containing VDTs and viewing problems caused by daylight. Various systems for direct and indirect lighting methods are examined.

Recommendations are a consensus of the opinions of Illuminating Engineering Society of North America Office Lighting Committee members, supported by applicable research.

"VDT Lighting—The IES Recommended Practice for Lighting Offices Containing Computer Visual Display Terminals," 32 pages, paperbound; $25 to members, $35 to nonmembers.

Order from: IES Publication Sales, 345 E. 47th St., New York, NY 10017;

New training course available from TEC

WASHINGTON, DC—The Electrification Council's updated and expanded seventh edition of the *Industrial & Commercial Power Distribution* is now available for use by utilities in their technical training and marketing support programs.

The course has been expanded from 10 to 16 chapters and updated to conform with the 1990 National Electrical Code. A new instructor's workbook, developed by James Litzinger, Pennsylvania Electric Co., uses a cookbook approach to help solve energy-related problems.

For more information contact: The Electrification Council, 701 Pennsylvania Ave., N.W., Washington, DC; phone 202/508-5900.

FOR CENTURIES, AMERICANS HAVE SEARCHED FOR WAYS TO EFFECTIVELY PRODUCE ELECTRICITY.

When Ben Franklin first advanced his notions about electricity, many people told him to go fly a kite.

He did. And made history.

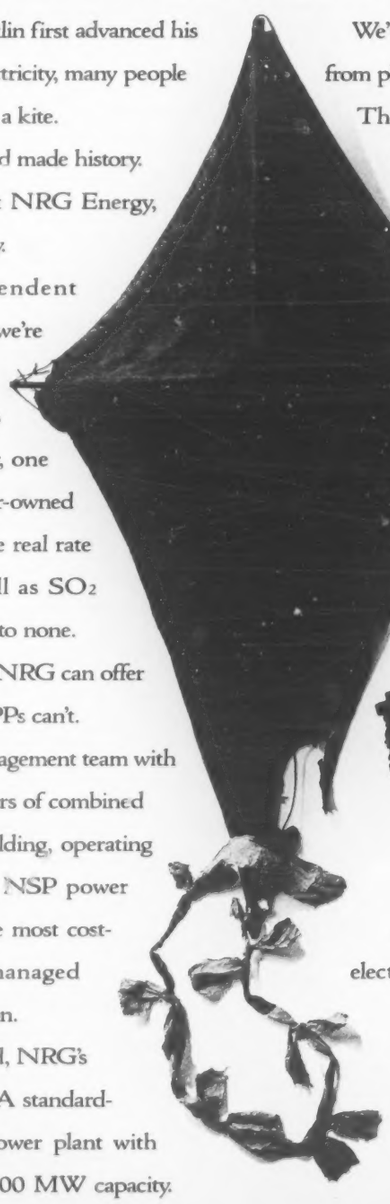
That's what NRG Energy, Inc. is doing today.

An independent power producer, we're a subsidiary of Northern States Power Company, one of the few investor-owned utilities to achieve real rate reduction as well as SO_2 reduction second to none.

That's why NRG can offer you what other IPPs can't.

First, a management team with more than 75 years of combined experience in building, operating and maintaining NSP power plants, among the most cost-effective, best-managed plants in the nation.

And second, NRG's Reference Plant. A standardized coal-fired power plant with either a 200 or 400 MW capacity.



We'll sell you economically-priced power from plants that we design, build and operate. These plants can use pulverized coal or fluidized bed boilers, depending on plant size, fuel supply and financing.

You'll realize substantial savings versus building your own plant.

And because our plant design is standardized and uses modular components, we can complete construction within 32 months, compared to the usual 40 to 48 months.

Best of all, NRG will build on NSP's leadership in critical areas like long-term coal contracts, economical transportation, pollution control and licensing. In short, you'll get the electricity you need at the right price.

Call Dave Peterson at 1-800-243-6674 or 612/330-6745.

NRG Energy, Inc.

A Subsidiary of Northern States Power Company

Inquire R.S. 6